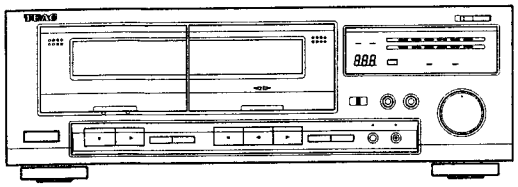
TEAC



SERVICE MANUAL

W-600R/W-488R

Stereo Double Cassette Deck

NOTES

- PC boards shown are viewed from parts side.
- Parts marked with * require longer delivery time.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [ ] mark can be used only with the version designated.
  [US]:U.S.A. [C]:CANADA [GE]:GENERAL EXPORT [E]:EUROPE [UK]:U.K.
  [A]:AUSTRALIA

Effective : October, 1999

D0052650)A

1 SPECIFICATIONS

Track System..... 4-track, 2-channel stereo
Heads
DECK I :.....Playback x 1
DECK II: .....Erase x 1, Record/Playback x 1 (rotating)
Type of Tape.....Cassette tape C-60 and C-90 (Philips type)
Tape Speed .....4.8 cm/sec
Motor .....DC motor
Frequency Response
Normal .....40 - 14,000 Hz
CrO_2.....40 - 15,000 Hz
FF and REW time
.....Approximately 100 seconds (C-60 cassette tape)
Wow/Flutter .....0.3% (WRMS)
S/N Ratio
Dolby B NR ON, over 5 kHz.....65 dB (CCIR/ARM)
Dolby NR OFF, 3% THD level, weighted ..56 dB (CCIR/ARM)

Power Consumption .....15 W
Power Supply .....120V AC, 60Hz (U.S.A./Canada Model)
120/230V AC, 50-60Hz (General Export Model)
230V AC, 50Hz (Europe Model)
Dimensions (WxHxD).....435 x 145 x 290 mm
(17-1/8" x 5-11/16" x 11-7/16")
Weight .....3.8 kg (8-3/8 lbs.)
Standard Accessories .....Audio signal cord x 2
Remote Control Unit (RC-744) x 1 (W-488R only)
Battery (SUM-3, "AA", "R6" type) x 2 (W-488R only)

- Improvements may result in specification or feature changes without notice.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⊡ are trademarks of Dolby Laboratories Licensing Corporation.

2 ADJUSTMENTS AND CHECKS

2-1 MECHANICAL ADJUSTMENT

ITEM	TEST TAPE	ADJUSTMENTS	MEASURING POINTS, RESULT
1. Wow and flutter	MTT-111N	Check	Within 0.3% (JIS WTD)
2. Tape speed adjustment	MTT-111N	R32	PLAYBACK *I* 3000±20Hz
		Check	REC/PLAY *II* 3000±90Hz
3. Speed drifting	MTT-111N	Check	Within ±80Hz
4. High speed dubbing	PLAYBACK *I* MTT-111N REC/PLAY *II* MTT-5513	Check	6000±460Hz

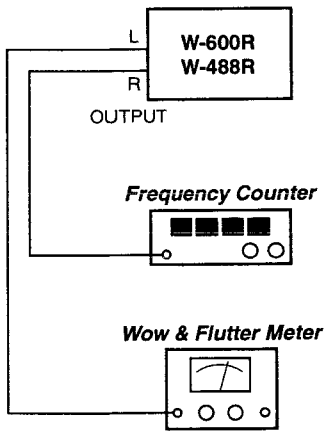


Fig. 2-1

2-2 ELECTRICAL ADJUSTMENT

2-2-1 Precautions

- Before performing adjustments and checks clean and demagnetize the entire tape path.
- In general, adjustments and checks are made in the order of Lch then Rch. Double REF. Nos. indicate Lch/Rch. (Example; R11/R21)
- 0dB is referenced to 0.775V.
- The AC voltmeter used in the procedures must have an input impedance of 1MΩ or more.
- Unless specified otherwise, adjustments and checks are made in FWD direction.

2-2-2 Adjustment locations

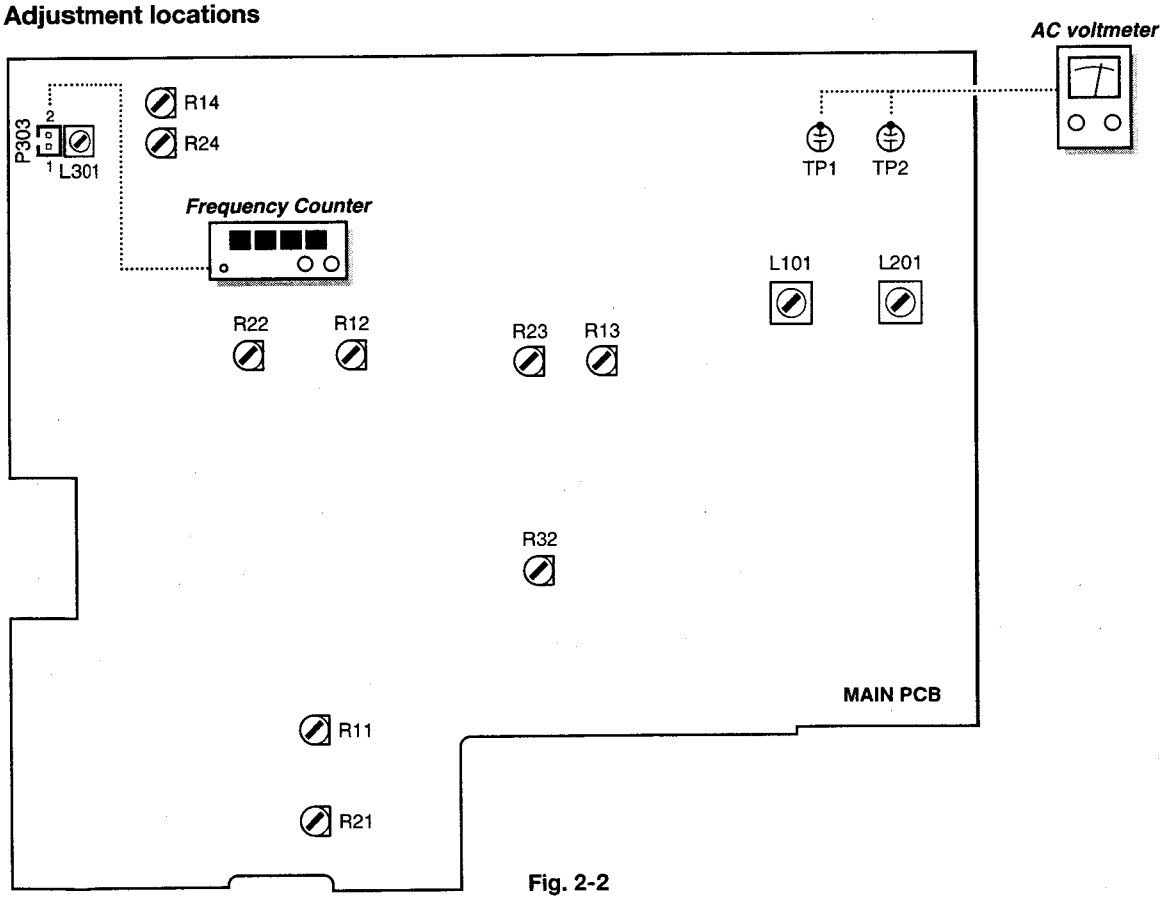


Fig. 2-2

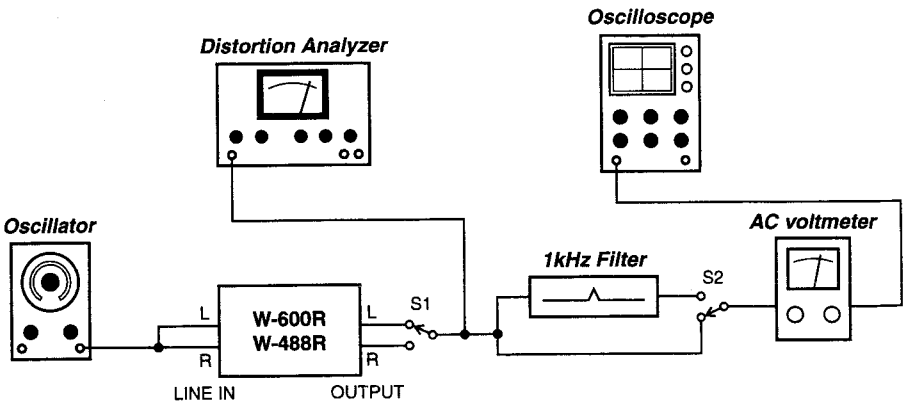
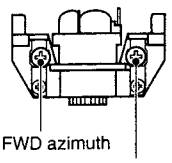
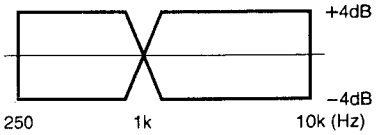


Fig. 2-3

2-2-3 Playback performance

Deck settings:
Mode: PLAY
DOLBY NR Switch: OFF

TEAC test tapes:
MTT-150C : For Dolby level calibration
MTT-25702 : For playback frequency response check NORMAL tape
MTT-5513 : For S/N check NORMAL tape

ITEM	SETTING	INPUT SIGNAL	ADJUSTMENTS	MEASURING POINTS, RESULT	REMARKS
1. Head azimuth adjustment	Connection: Fig. 2-4 Check and adjust in FWD, REV respectively	MTT-150C	Check	OUTPUT: Phase: within 45° (Fig. 2-5)	 FWD azimuth REV azimuth (illustration for mecha II)
		MTT-25702 (12.5kHz)	Azimuth screws	OUTPUT: Maximum output level at L & R-ch	
2. DOLBY level	Connection: Fig. 2-2 FWD PLAY	MTT-150C	R11/R21	TP1/TP2 (C119 ⊖/C219 ⊖): −10dB	PLAYBACK *I*
			R12/R22		REC/PLAY *II*
3. Playback output level	Connection: Fig. 2-3 FWD/REV PLAY	MTT-150C	Check	OUTPUT: −3.5±1dB	Ref. output level
4. Meter level		MTT-150C	Check	LEVEL METER: 0dB	
5. Playback frequency response	Connection: Fig. 2-3	MTT-25702	Check	 +4dB −4dB 250 1k 10k (Hz)	
6. Playback S/N ratio	Connection: Fig. 2-3	MTT-5513 Playback the leader tape portion	Check	42dB min.	Ratio of ref. level to noise

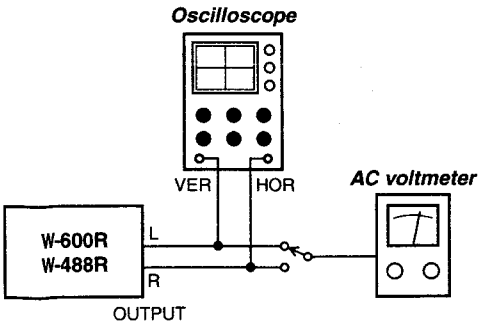


Fig. 2-4

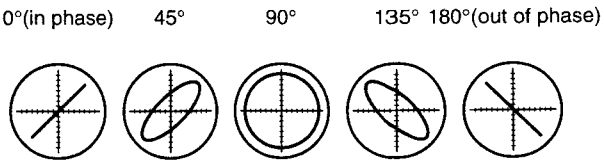
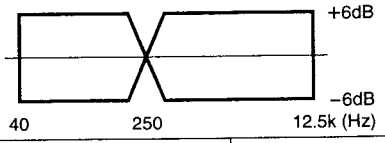


Fig. 2-5

2-2-4 Recording performance

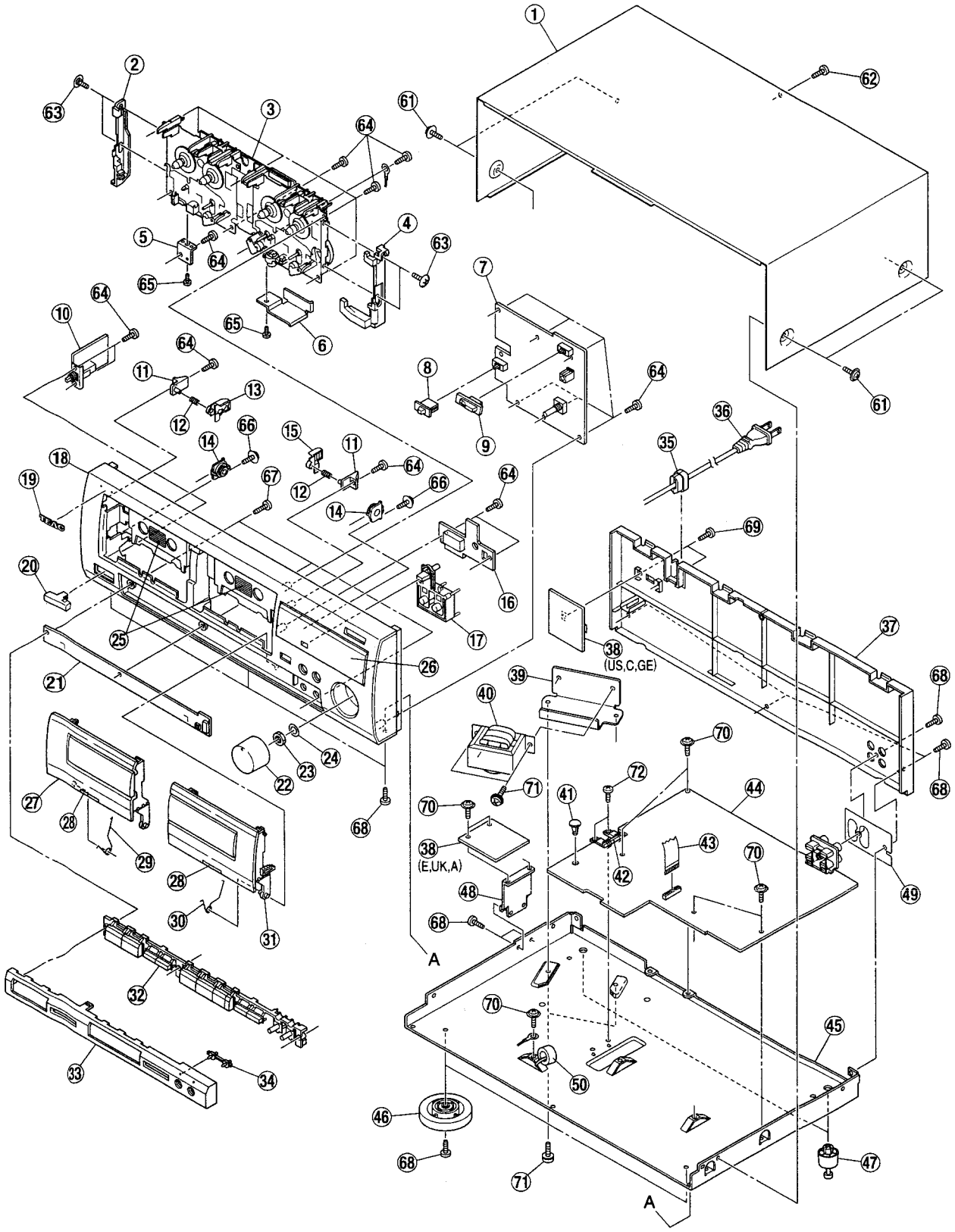
Deck settings:
Mode: REC/PLAY
DOLBY NR Switch: OFF
REC LEVEL Control: Specified position (Item 7)

TEAC recording test tapes:
MTT-5513 : For NORMAL
MTT-5563 : For CrO_2

ITEM	SETTING	INPUT SIGNAL (LINE IN)	ADJUSTMENTS	MEASURING POINTS, RESULT	REMARKS
7. Specified LINE input level	Connection: Fig. 2-3 Mode: REC	400Hz/−9dB	REC LEVEL	OUTPUT: Lch: −3.5dB Rch: −3.5±3dB	After adjusting, do not move (Specific position)
8. Bias osc frequency	Connection: Fig. 2-2 TAPE: MTT-5513 Mode: REC	No signal	L301	P303 Pin 2: 75±5kHz	
9. Record bias	Connection: Fig. 2-3 TAPE: MTT-5513	250Hz/10kHz −42dB	R14/R24	OUTPUT: Nearly equal level at both frequencies (±0.5dB)	
10. MPX filter	Connection: Fig. 2-3 Mode: REC	19kHz/−12dB	L101/L201	30dB min.	Ratio of ref. level to signal
11. Record level	Connection: Fig. 2-3 TAPE: MTT-5513	400Hz/−12dB	R13/R23	OUTPUT: −6.5dB	
	TAPE: MTT-5563		Check	OUTPUT: −6.5±1dB	
12. Total harmonic distortion	Connection: Fig. 2-3 TAPE: MTT-5513 MTT-5563	400Hz/−12dB	Check	NORMAL: 2.0% or less CrO_2 : 2.5% or less	
13. Overall frequency response	Connection: Fig. 2-3 TAPE: MTT-5513 MTT-5563	40Hz−12.5kHz −42dB	Check		
14. Overall S/N ratio	Connection: Fig. 2-3 TAPE: MTT-5513 MTT-5563	No signal	Check	40dB min.	Ratio of ref. level to noise
15. Erase efficiency	Connection: Fig. 2-3 TAPE: MTT-5563 1kHz B.P.F in	1kHz/+1dB	Check	65dB min.	Ratio of the 1kHz recorded portion to the erased portion.
16. Channel separation	Connection: Fig. 2-3 TAPE: MTT-5563 1kHz B.P.F in	Lch: 1kHz/−9dB Rch: No signal	Check	35dB min.	Ratio of Lch (1kHz) to Rch (no signal).
17. Adjacent track crosstalk	Connection: Fig. 2-3 TAPE: MTT-5563	Lch: No signal Rch: 125Hz/ −9dB	Check	40dB min.	Invert tape and play Rch track. Check leakage level against the output reference of previously recorded portion.

3 EXPLODED VIEWS AND PARTS LIST

EXPLODED VIEW-1

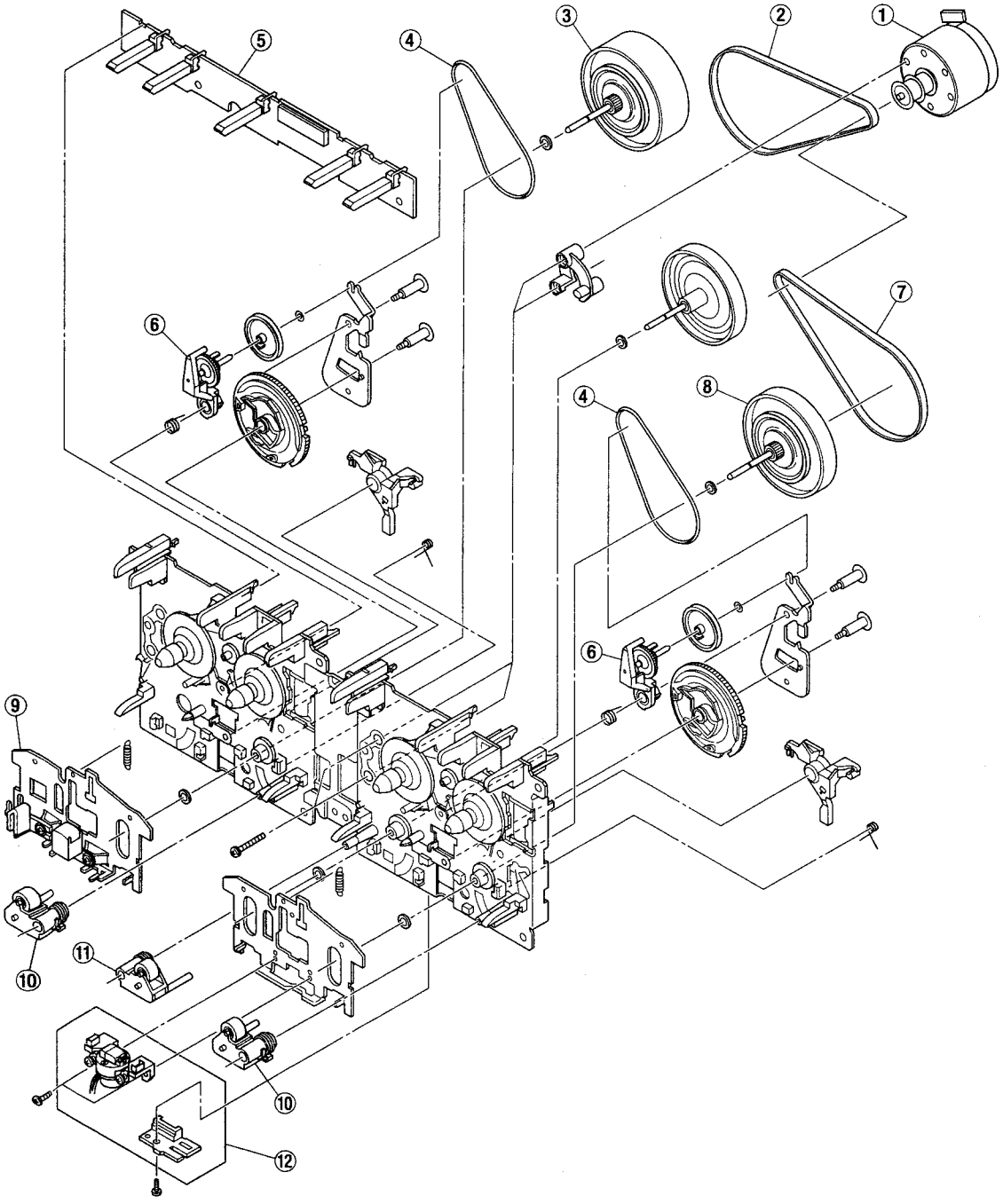


EXPLODED VIEW-1

REF. NO.	PARTS NO.	DESCRIPTION
1- 1	3M0011900A	BONNET
1- 2	*3M0072100A	LEVER, LOCK(L)
1- 3	*3M0072800A	MECH ASSY, CMAT5Z026A
1- 4	3M0072200A	LEVER, LOCK(R)
1- 5	*3M0072300A	HOLDER, MECH
1- 6	*3M0075100A	SHIELD PLATE
1- 7	*3E9518600A	PCB ASSY, FRONT
1- 8	*3M0071100A	KNOB, SLIDE
1- 9	*3M0001600A	KNOB, DOLBY
1-10	*3E9518900A	PCB ASSY, POWER SW
1-11	*3M0072000A	HOLDER, LOCK
1-12	*3M0072600B	CPRSN SPRING, CAM
1-13	*3M0071800B	CASE, LOCK LEVER(L)
1-14	*3M0036700A	DAMPER, DP-223A
1-15	*3M0071900B	CASE, LOCK LEVER(R)
1-16	*3E9518700A	PCB ASSY, COUNTER
1-17	*3M0070900A	BUTTON, B
1-18	*3M0070400B	FRONT PANEL [W-600R]
	*3M0070410B	FRONT PANEL [W-488R]
1-19	*3M0051600A	TEAC EMBLEM(GOLD)
1-20	3M0071000A	BUTTON, POWER
1-21	*3E9518800A	PCB ASSY, KEY
1-22	3M0001500A	KNOB, VR
1-23	*3M001340	NUT, VR M9
1-24	*3M001350	PLAIN WSHR, VR M9.1
1-25	3M0062400A	PLATE, REFLECT
1-26	*3M0071400A	WINDOW, DISP
1-27	*3M0075700B	CASE LOADING(L)ASSY
1-28	*3M0071700A	COVER, AZIMUTH
1-29	*3M0072400B	TRSN SPRING, CASE(L)
1-30	*3M0072500B	TRSN SPRING, CASE(R)
1-31	*3M0075800B	CASE LOADING(R)ASSY
1-32	3M0075900A	BUTTON A ASSY
1-33	*3M0070700A	PANEL, BUTTON
1-34	*3M0071600A	LENS, LED REC
1-35	⚠ *3M000880	BUSHING, #2271
1-36	⚠ 3E009230	POWER CORD [US, C, GE]
	⚠ 3E000340	POWER CORD [E]
	⚠ *3E000350	POWER CORD [UK]
	⚠ *3E000360	POWER CORD [A]
1-37	*3M0010940A	REAR PANEL [US, C, GE]
	*3M0010930A	REAR PANEL [E, UK, A]
1-38	*3E9519010A	PCB ASSY, POWER SEL[US, C, GE]
	*3E9519020A	PCB ASSY, POWER SEL [E, UK]
	*3E9519030A	PCB ASSY, POWER SEL [A]
1-39	*3M0075500B	BASE, TRANS
1-40	⚠ 3E0111900A	TRANS
1-41	*3M0075600A	PCB SPACER, RSPS-8L
1-42	*3E9519100A	PCB ASSY, REG
1-43	*3E0109500A	FFC, CUJ(1.25)-L-17-232

REF. NO.	PARTS NO.	DESCRIPTION
1-44	*3E9518500B	PCB ASSY, MAIN [US, C, GE, A]
	*3E9518510B	PCB ASSY, MAIN [E, UK]
1-45	*3M0010830B	MAIN CHASSIS
1-46	3M0009400A	FOOT ASSY, 56(SILVER)
1-47	3M000440	FOOT, FF-D25
1-48	*3M0078800A	BRACKET PCB [E, UK, A]
1-49	*3M0078900A	SHEET, EARTH [E, UK]
1-50	*3E002730	FER. CORE K5AT 13X7X5 [E, UK]
1-61	*3B0001806A	SCREW, J, S M3X6(BLK)
1-62	*3B0004808A	SCREW, BPP M3X8(BLK)
1-63	*3B0006900A	SCREW, PBS M2.6X3.5
1-64	*3B0000808A	SCREW, BPP M3X8
1-65	*3B0003205A	SCREW, PPS M2.6X5
1-66	*3B0002308A	SCREW, J P M3X8(BLK)
1-67	*3B0000810A	SCREW, BPP M3X10
1-68	*3B0005708A	SCREW, BPB M3X8(BLK)
1-69	*3B0004406A	SCREW, BPS M3X6(BLK)
1-70	*3B0001306A	SCREW, J, S M3X6
1-71	*3B0004208A	SCREW, BPAW M4X8
1-72	*3B0000106A	SCREW, BPS M3X6

EXPLODED VIEW-2

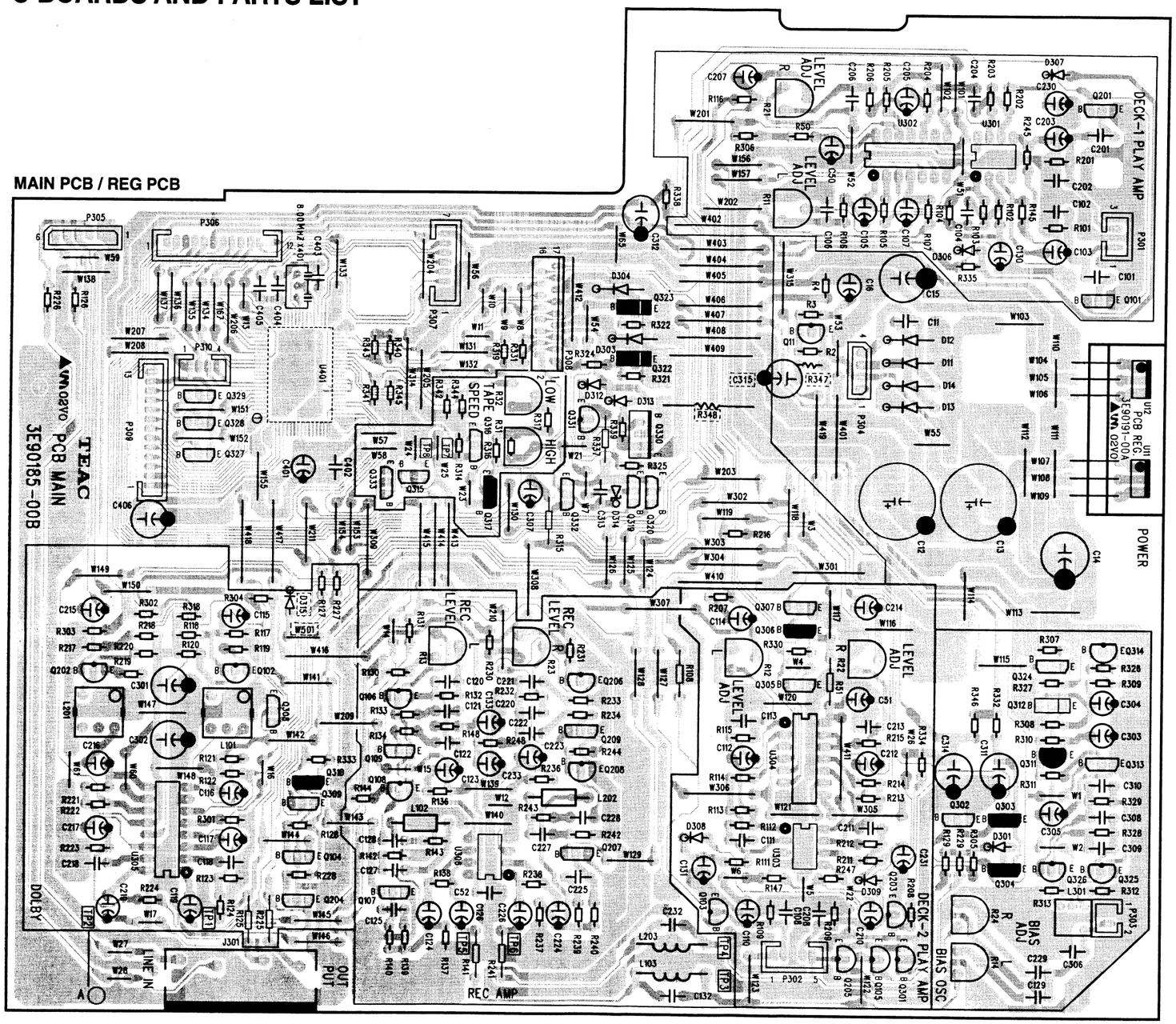


EXPLODED VIEW-2 (CMAT5Z026A)

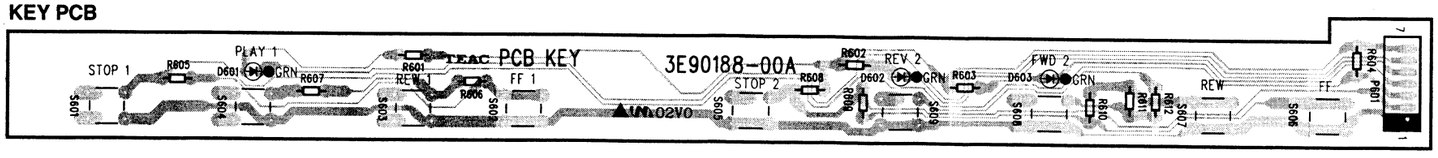
REF.NO.	PARTS NO.	DESCRIPTION
2- 1	9A07829200	MTR MAIN BLK
2- 2	9A07829800	JOINT BELT
2- 3	9A08028000	CLUTCH ASSY BLK
2- 4	3M002940	F/R BELT
2- 5	9A08027900	PCB CONTROL BLK
2- 6	9A07829400	CLUTCH ASSY BLK
2- 7	3M002950	BELT MAIN
2- 8	9A07829600	CLUTCH ASSY BLK
2- 9	9A07829100	PLATE HD BLK
2-10	9A07829700	ROLLER PINCH BLK R
2-11	9A08028200	ROLLER PINCH BLK L
2-12	9A08027800	PLATE HD BLK

4 PC BOARDS AND PARTS LIST

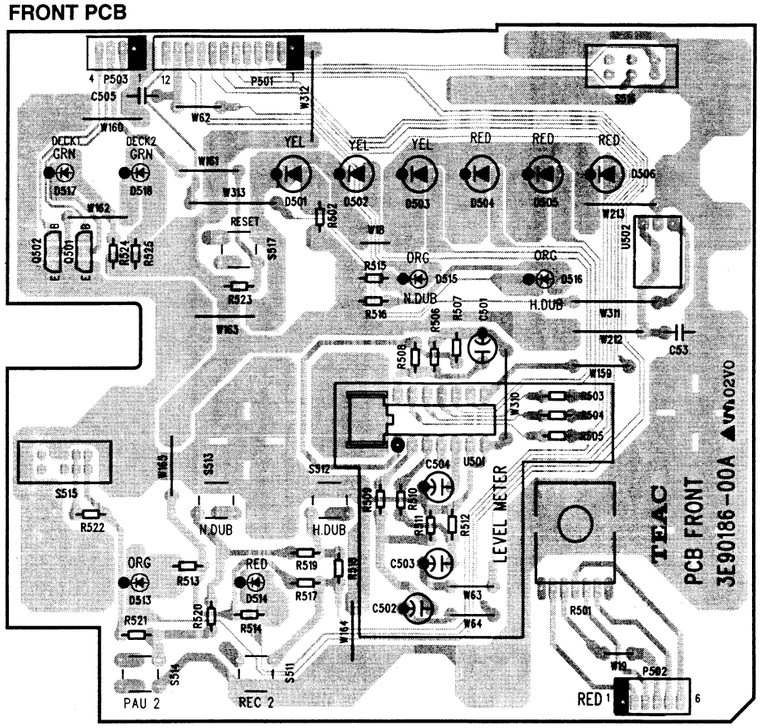
MAIN PCB / REG PCB



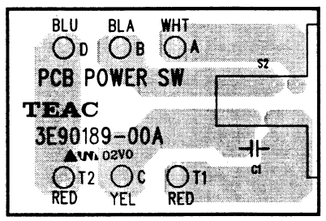
KEY PCB



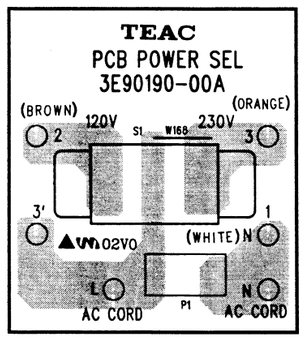
FRONT PCB



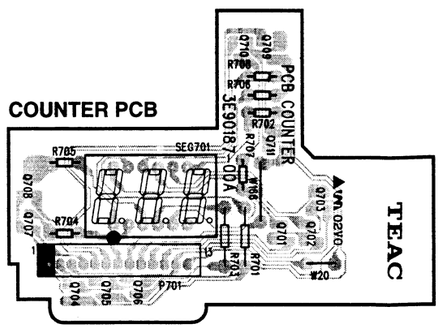
POWER SW PCB



POWER SEL PCB



COUNTER PCB



MAIN PCB ASSY

REF.NO.		PARTS NO.	DESCRIPTION
		*3E9518500B	PCB ASSY,MAIN [US,C,GE,A]
		*3E9518510B	PCB ASSY,MAIN [E,UK]
		*3E9018500B	PCB,MAIN
C12,13	⚠	3C009910	CE,25V 2200UF GS
D11-14	⚠	3S000031	DIODE,1N4003-TR
D301		3S000241	DIODE,1SS133
D303,304		3S000031	DIODE,1N4003-TR
D306-309		3S000241	DIODE,1SS133
D312,313		3S000241	DIODE,1SS133
D314		3S002351	ZDI,MTZJ13B
J301		3E000010	JACK,RCA 4P [US,C,GE,A]
J301		3E010860	JACK,RCA 4P [E,UK]
L101,201		3E000040	FILTER,LOW PASS MPX
L102,202		3E004421	COIL,8.2MH EC46-822J-T5
L103,203		3E004431	COIL,22MH EC46-223K-T5
L301		3E009490	COIL,TAPE OSC M-8G
P301		3E000670	CONNECT PLUG 3P,B3B-PH-K
P302		3E000690	CONNECT PLUG 5P,B5B-PH-K
P303		3E000660	CONNECT PLUG 2P,B2B-PH-K
P304		3E008590	CONNECT PLUG 4P,5267-04A-X
P305		3E008610	CONNECT PLUG 6P,5267-06A-X
P306		3E000760	CONNECT PLUG 12P,B12B-PH-K
P307		3E000710	CONNECT PLUG 7P,B7B-PH-K
P308		3E010940	CONNECTOR,FCC 17FE-BT-VK-N
P309		3E000770	CONNECT PLUG 13P,89400-1310
P310		3E000680	CONNECT PLUG 4P,B4B-PH-K
Q11		3S002310	TR,KSC945C-GTA
Q101,201		3S000291	TR,DTC124ES
Q102,202		3S002310	TR,KSC945C-GTA
Q103,203		3S002310	TR,KSC945C-GTA
Q104,204		3S000731	TR,2SD2144S
Q105,205		3S002310	TR,KSC945C-GTA
Q106,206		3S002310	TR,KSC945C-GTA
Q107,207		3S000291	TR,DTC124ES
Q108,208		3S002310	TR,KSC945C-GTA
Q109,209		3S000291	TR,DTC124ES
Q301		3S002310	TR,KSC945C-GTA
Q302		3S000291	TR,DTC124ES
Q303,304		3S000301	TR,DTA124ES
Q305		3S000291	TR,DTC124ES
Q306		3S000301	TR,DTA124ES
Q307-309		3S000291	TR,DTC124ES
Q310		3S000301	TR,DTA124ES
Q311		3S002300	TR,KSA733C-GTA
Q312		3S001550	TR,2SD1859TV2-Q
Q313		3S000291	TR,DTC124ES
Q314		3S002310	TR,KSC945C-GTA
Q315,316		3S000291	TR,DTC124ES
Q317		3S000301	TR,DTA124ES
Q319,320		3S000291	TR,DTC124ES
Q322,323		3S000320	TR,2SA1237TV2Q
Q324		3S000291	TR,DTC124ES
Q325,326		3S002310	TR,KSC945C-GTA
Q327-329		3S000291	TR,DTC124ES
Q330		3S000400	TR,2SB1015Y

MAIN PCB ASSY

REF.NO.		PARTS NO.	DESCRIPTION
Q331		3S002310	TR,KSC945C-GTA
Q332,333		3S000291	TR,DTC124ES
R11,21		3R004590	VR,SEMI-FIXED RH0615-10K
R12,22		3R004590	VR,SEMI-FIXED RH0615-10K
R13,23		3R004590	VR,SEMI-FIXED RH0615-10K
R14,24		3R004600	VR,SEMI-FIXED RH0615-22K
R32		3R004600	VR,SEMI-FIXED RH0615-22K
R337	⚠	3R004390	RD,1/2W 560 OHM
U301		3S000280	IC,UPC4570C
U302		3S000430	IC,BU4066BC
U303		3S000280	IC,UPC4570C
U304		3S000430	IC,BU4066BC
U305		3S002520	IC,KA2271B
U306		3S000260	IC,NJM4558D
U401		3S0024700C	IC,CXP84412-115Q
X401		3E010670	RES,CST8.00MTW

REG PCB ASSY

REF.NO.		PARTS NO.	DESCRIPTION
		*3E9519100A	PCB ASSY,REG
U11	⚠	3S002420	IC,NJM7809FA
U12	⚠	3S000650	IC,NJM7805FA

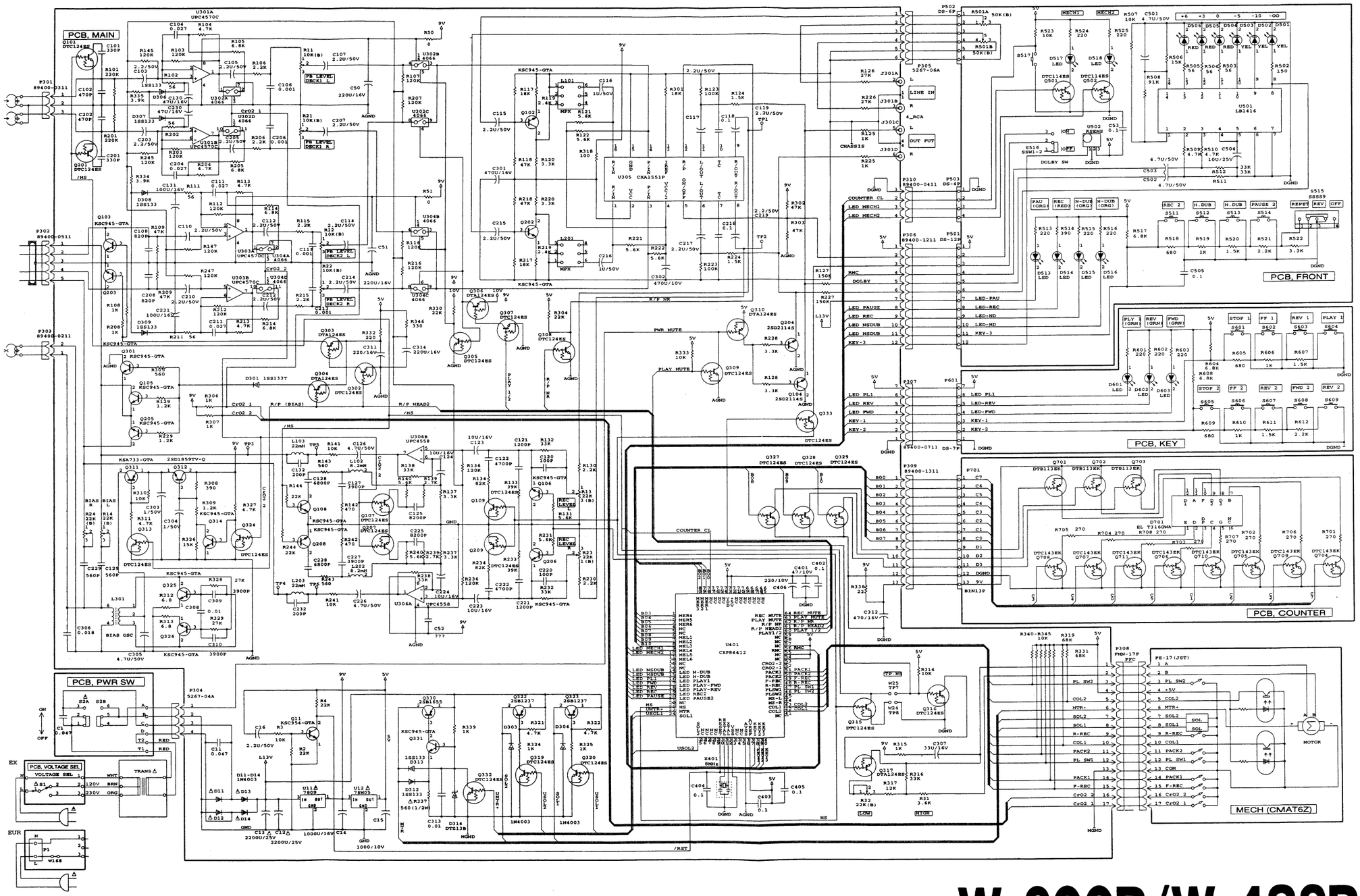
KEY PCB ASSY

REF.NO.	PARTS NO.	DESCRIPTION
	*3E9518800A	PCB ASSY,KEY
	*3E9018800A	PCB,KEY
D601-603	3S002460	LED,GRN(3DIA)LG2041
S601-609	3E002070	SW,TACT SKQSAB HMR-187

FRONT PCB ASSY

REF.NO.	PARTS NO.	DESCRIPTION
	*3E9518600A	PCB ASSY,FRONT
	*3E9018600A	PCB,FRONT
D501-503	3S000170	LED,YEL(5DIA)LI3331/HO/S1
D504-506	3S000160	LED,RED(5DIA)LI3331/HO/S1
D513	3S000203	LED,YEL(3DIA)LY2041/F110
D514	3S000193	LED,RED(3DIA)LH2041/F110
D515,516	3S000203	LED,YEL(3DIA)LY2041/F110
D517,518	3S002463	LED,GRN(3DIA)LG2041/F57
Q501,502	3S002450	TR,DTC114ESTP
R501	3R004510	VR,RK14K12D 50KAX2
S511-514	3E002070	SW,TACT SKQSAB HMR-187
S515	3E010700	SW,SLIDE 2-3
S516	3E000110	SW,SLIDE 2-2
S517	3E002070	SW,TACT SKQSAB HMR-187
U501	3S000070	IC,LB1416
U502	3S002200	REMOCON SENSER,TSOP1838RF

TEAC SCHEMATIC DIAGRAM W-600R/W-488R



INSTRUCTIONS FOR SERVICE PERSONNEL
BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

NOTES:
1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. ⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

W-600R/W-488R

Stereo Double Cassette Deck

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POWER SW PCB ASSY

REF. NO.		PARTS NO.	DESCRIPTION
		* 3E9518900A	PCB ASSY, POWER SW
		* 3E9018900A	PCB, POWER SW
S2	⚠	3E000370	SW, PUSH SPUL 12469A

COUNTER PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	* 3E9518700A	PCB ASSY, COUNTER
	* 3E9018700A	PCB, COUNTER
D701	3S002410	LED, 7SEG EL-T316GWB(GRN)
Q701-703	3S002440	TR, DTB113EK
Q704, 711	3S002430	TR, DTC143EK

POWER SEL PCB ASSY

REF. NO.		PARTS NO.	DESCRIPTION
		* 3E9519010A	PCB ASSY, POWER SEL[US, C, GE]
		* 3E9519020A	PCB ASSY, POWER SEL [E, UK]
		* 3E9519030A	PCB ASSY, POWER SEL [A]
		* 3E9019000A	PCB, POWER SEL
	⚠	3E002110	SW, SLIDE SL13B-022[US, C, GE]
P1		3E002170	TERMINAL LAPPING 2P[E, UK, A]

INCLUDED ACCESSORIES (W-600R)

REF. NO.	PARTS NO.	DESCRIPTION
	* 3D0025600A	OWNER'S MANUAL, E/F [US, C, GE, A]
	* 3D0025700A	OWNER'S MANUAL, E/F/G/I/S/D [E, UK]
	* 3E000380	PIN CORD

INCLUDED ACCESSORIES (W-488R)

REF. NO.	PARTS NO.	DESCRIPTION
	* 3D0025800A	OWNER'S MANUAL, E/F
	* 3E000380	PIN CORD
	* 3E0106900A	REMOTE CONTROL UNIT, RC-744
	* 3E003660	BATTERY, UM-3(2P X ED)